

Remarks

Reconsideration and withdrawal of the rejection of all claims of the instant application, as obvious to one of ordinary skill in the art over the patents to Hisano and Hutcheson et al., and favorable consideration of the newly submitted claims, are respectfully requested in view of the foregoing amendments and the following remarks:

The present invention is concerned with the problem of accurately and quickly identifying imprints produced by an article when the article itself is no longer present (e.g. a footprint). Albeit it is known from US Patent No. 6,181,804 to use the rectangular coordinates of any unique identification features to identify the article from numerous sets of coordinates stored in a database, doing so requires accurate positioning of the image of the imprint, and normally multiple comparisons would be needed in order to take account of registration errors.

In accordance with the present application, however, the *distances* between identifying features are stored in the recited database, and the distances alone are used as a basis for comparison, without reference to coordinate or directional information. This completely eliminates the requirement for accurate registration, and greatly accelerates the identification process.

Amended Claim 1 emphasizes these distinctions, and newly added Claim 9 characterizes the invention in further detail (newly added dependent Claims 10-16 correspond respectively to original Claims 2-8). Support for the changes is found throughout the specification, such as for example in the second full paragraph of page 6.

More particularly, Hisano is concerned with an entirely different and unrelated problem; i.e. (and as indicated by the title), detecting the orientation of a single article of known shape. The image is taken directly from, and in the presence of, the article. Hence, there is no requirement for identification of the article, and there is no database containing information about numerous different imprints.

The only information that is stored, in accordance with the Hisano invention, relates to the single known article (column 3, lines 34 to 37). Clearly, therefore, Hisano neither teaches nor suggests any step of “*comparing the distance information of the stored records to identify records likely to have been derived from the same article*” since, without question, the stored records originate from the same article. It is evident therefore that Hisano offers no solution to the problem addressed by the present invention, and the claimed method could not have been obvious to one of ordinary skill in the art over the reference, either taken alone or used in combination with Hutcheson.

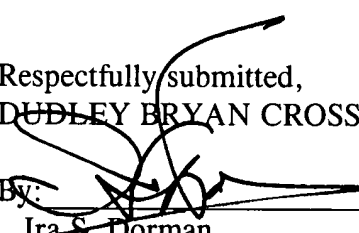
Moreover, Applicant does not agree with the Examiner that Hutcheson and Hisano relate to the same field of endeavor. Indeed, whereas Hisano is concerned with ascertaining the orientation of a known article, Hutcheson is concerned with pattern recognition in a neural network environment, such as in the identification of a human facial images (column 1, lines 24 to 34).

As best as can be understood, Hutcheson does not appear to employ the essential steps of the instant method: recording coordinates, calculating the distances between the coordinates, storing the distance data, and comparing the stored distance data records to identify records likely to have been derived from the same article. In the

summary provided in column 3, lines 3 to 31 of the patent, it emerges that stored images are subject to a two-dimensional linear transform, and that the polar coordinates of predetermined, maximally distinctive areas are extracted from the transformed image. The polar vector information is then input to a neural network, which can be recursively trained to recognize vector patterns. The use of polar coordinates, or vector data, in a neural network system is significantly different from a database of stored distances, which do not inherently possess any vector (directional) information.

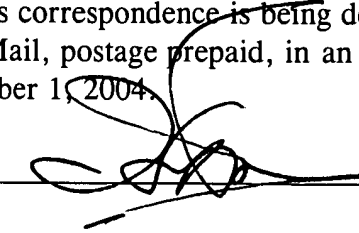
It is respectfully submitted, therefore, that the present invention cannot be derived from Hisano or Hutcheson, taken individually or in combination, and it would not have been obvious under 35 U.S.C. 103. Passage of the application to allowance, with all presently submitted claims, is believed to be in order, and such action is earnestly solicited.

Respectfully submitted,
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CERTIFICATE OF MAILING

I, IRA S. DORMAN, hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail, postage prepaid, in an envelope addressed as set forth on the first page hereof, on September 1, 2004.



cc: Mr. Stephen A. Craske
(Ref. No. SAC/dmc/P847.US)